

B.6 SAMPLE RETURN LABORATORY INSTRUMENTS AND DATA ANALYSIS

1. Scope of Program

The ultimate goal of the Sample Return Laboratory Instrument and Data Analysis (SRLIDA) program is to maximize the scientific return from the samples provided by Discovery missions such as Genesis and Stardust (see further below), through development of laboratory instrumentation and advanced analytical techniques required for the complete analyses of the samples they return.

Proposals solicited under this program are expected to include those that seek to develop new analytical instrumentation or combinations of analytical instruments, or new components of analytical instruments, leading to significant improvements in the precision, resolution, or sensitivity of measurements compared to the existing state-of-the-art. Also of interest is the development of new analytical techniques for existing instrumentation that will push the limits of current technology, for example by elimination of analytical interferences or contamination problems. Acquisition of “off the shelf” state-of-the-art instruments will be supported mainly where critical for new development efforts, or in special cases where existing analytical capabilities at an investigator’s institution would combine with a new instrument to create a unique or highly advantageous analytical facility for the analysis of returned Discovery mission samples. In some instances, it will make sense to develop instrumentation and techniques that will be used by only a small number of investigators at a single institution. In other instances, the high cost of the instrument and its associated support structure may allow the development of only a limited number of such facilities that must be shared by the entire community. For these larger and more expensive facilities, proposers should include detailed plans for facility management based on the size of the anticipated user base, including facility oversight, the fraction of time that will be made available to outside users, and the mechanism for allotting such time on a regular basis. In all cases, cost sharing arrangements in the development of new instrumentation or techniques and evidence of a long-term institutional commitment to the analysis of returned samples will be viewed favorably in the selection process.

Finally, note that to enable the NASA Office of Space Science to properly evaluate the relevance of proposals submitted to its programs, as well as track its progress towards achieving its goals as mandated by the Government Performance Review Act (GPRA), all research supported by NASA’s programs must now demonstrate its relationship to NASA Goals and Research Focus Areas (RFAs) as stated in the latest version of its Strategic Plan (follow links from the Web site <http://spacescience.nasa.gov/>); see also the discussion in Section I of the *Summary of Solicitation* of this NRA. Therefore, all proposers to this program element are asked to state their perception of this relevance in terms of the Goals, Science Objectives, and RFAs given in Table 1 found in the *Summary of Solicitation*. In particular, this program element is designed to help fulfill RFAs 1(a), (b), and (c) and RFA 2(a) of Goal II of the Solar System Exploration science theme.

2. Background

Genesis is a mission designed to return samples of the solar wind to provide constraints on the chemical and isotopic composition of the primitive solar nebula; it was launched in mid-2001 and will return samples to Earth in September 2004. Further information may be found from its homepage at <http://genesismission.jpl.nasa.gov/>.

Stardust, a mission to return samples of a comet's coma, was successfully launched in 1999 and encountered comet Wild-2 in January 2004; it is scheduled to return its samples to Earth in January 2006. Further information may be found from its homepage at <http://stardust.jpl.nasa.gov/>.

It is anticipated that additional missions undertaken within the Discovery program will also return samples that pose unique analytical challenges.

3. Programmatic Information

Total funding for the SRLIDA program is about \$7.0M in FY 2005 of which about \$3.0M is available for the support of new research. It is anticipated that this level will support approximately 10 new selections. Periods of performance of up to three years may be proposed

As a change from past practices for this program, and in anticipation of a new master data base for OSS research awards that is being implemented on an evolving basis, Annual Progress Reports (alternatively called both "Progress" or "Status" Reports in previous research solicitations) for ongoing multiple-year awards are no longer required at the time that new proposals are due for this program element. Instead, a single *Annual Progress Report* will be due no later than 60 days in advance of the anniversary date of the award and is to be submitted as an attachment to an E-mail message to the Program Officer for this program. Note that as an additional change from past practice, a revised budget for any remaining years of an approved award is neither necessary nor expected; barring the development of unforeseen, extreme issues, the multiple year budget approved at the time of the original award is considered binding (see Section D.4 of Appendix D of the *NASA Guidebook for Proposers* for further details).

IMPORTANT INFORMATION

The *Summary of Solicitation* of this NRA points out that NASA Headquarters now uses a single, unified set of instructions, entitled *NASA Guidebook for Proposers Responding to NASA Research Announcements*, that provides detailed guidance for the preparation and submission of proposals to most of its NRAs. By reference the current edition, *Guidebook for Proposers– 2004*, is incorporated into this Office of Space Science solicitation and is accessible by linking through the menu item "Helpful

References” at the Web site <http://research.hq.nasa.gov> or it may be directly accessed at <http://www.hq.nasa.gov/office/procurement/nraguidebook/>. Proposers to this Program Element are urged to familiarize themselves with this document, in particular its Chapters 1, 2, and 3, before preparing a proposal. This NRA’s *Summary of Solicitation* also contains the schedule and instructions for the electronic submission of both a *Notice of Intent* (NOI) to propose, as well as a proposal’s *Cover Page/Proposal Summary/Budget Summary* for the proposal, and the mailing address for the submission of proposals.

Questions about this Program Element may be directed to the Program Officer:

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